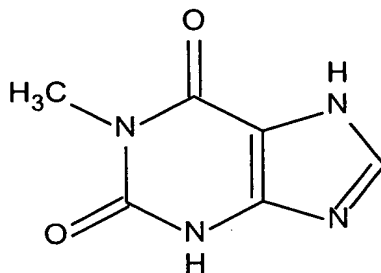


Basic Structure of N- (Aryl Substituted) -
naphthalimidides

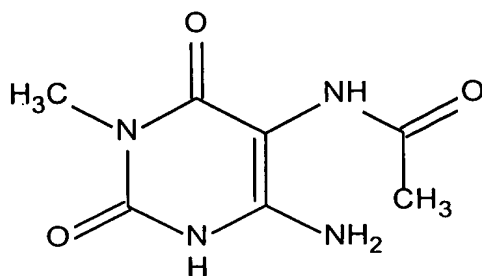
FIG - 1



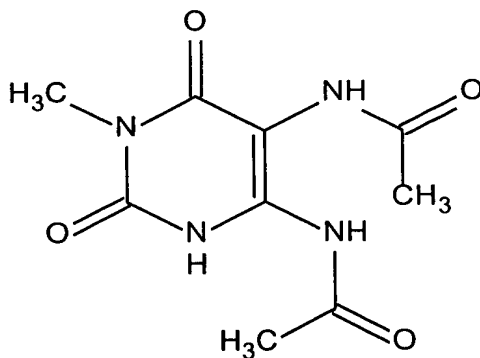
NAT2



1X (1-methylxanthine)



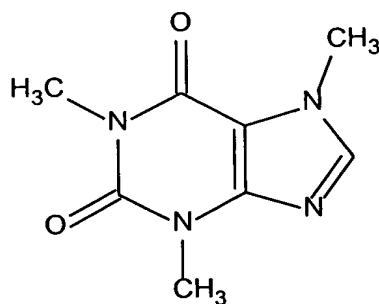
AAMU (5-acetamido-6-amino-methyluracil)



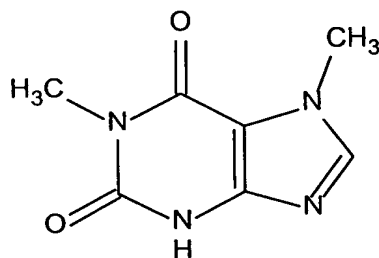
AFMU (5-acetamido-6-formylamino-methyluracil)



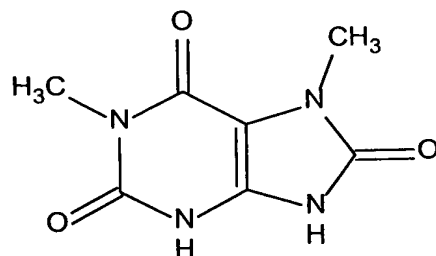
CYP1A2



Caffeine (1,3,7-trimethylxanthine)



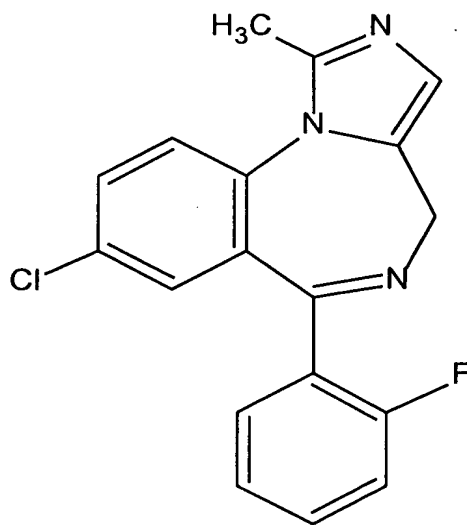
1,7-DMX (1,7-dimethylxanthine)



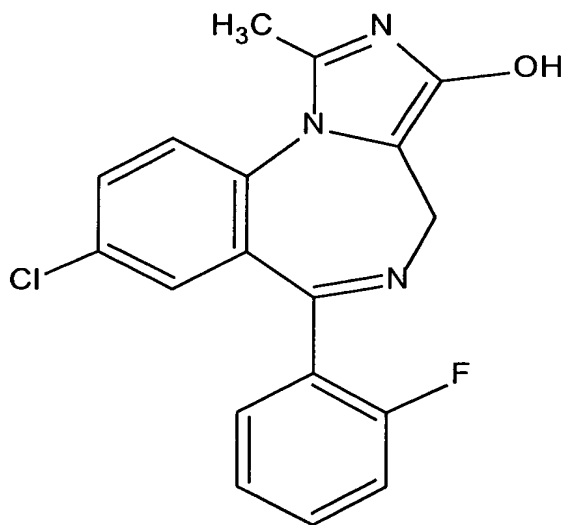
1,7-DMU (1,7-dimethyluracil)



CYP3A4



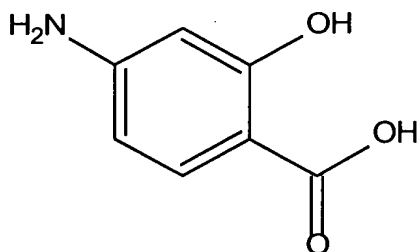
MDZ (Midazolam)



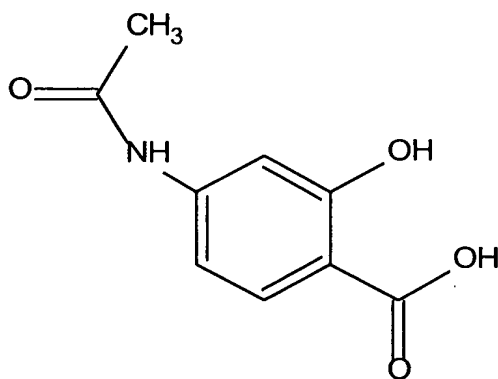
1-OH-MDZ (1-Hydroxymidazolam)



NAT1



p-ASA (p-aminosalicylic acid)

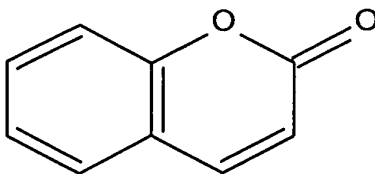


Acetyl-pASA (acetyl-p-aminosalicylic acid)

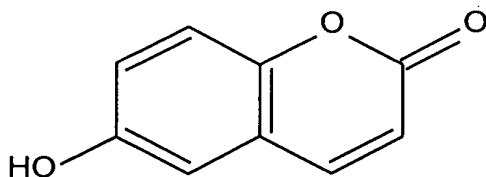
FIG. 5



CYP2A6



Coumarin

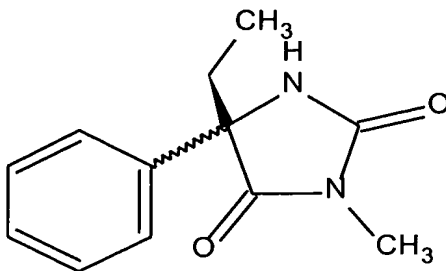


7-Hydroxycoumarin

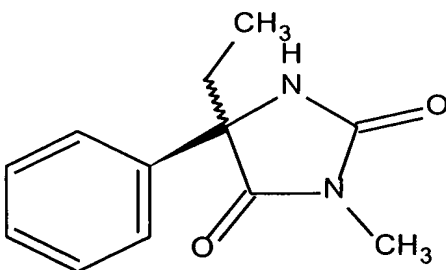
FIG. 6



CYP2C19



R-(-)-Mephénytoin



S-(+)-Mephénytoin

FIG. 7

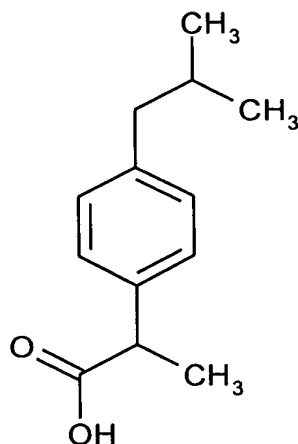


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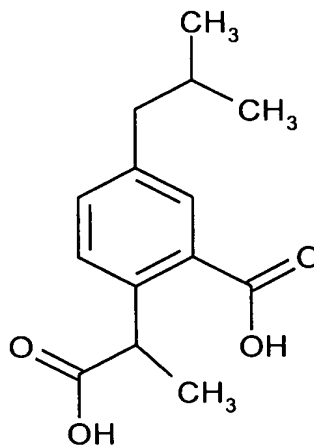
Title: USE OF METABOLIC PHENOTYPING...

Inventor: Brian Leyland-Jones

CYP2C9



(s) -Ibuprofen

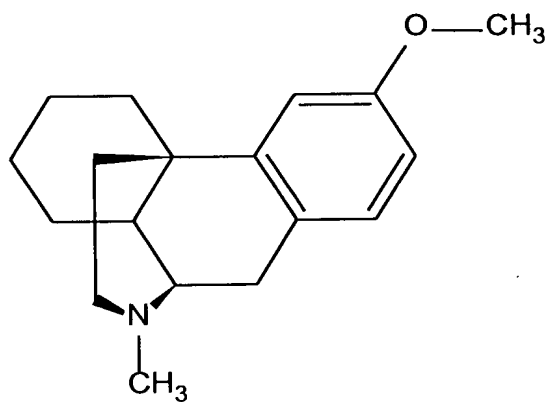


2-carboxyibuprofen

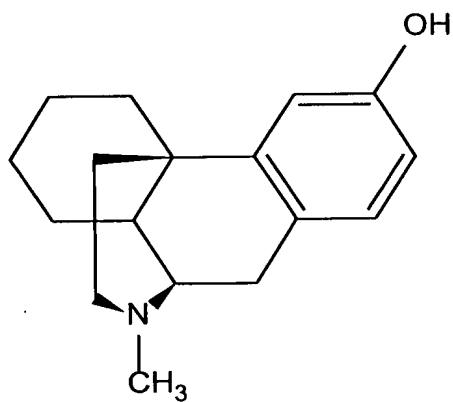
FIG. 8



CYP2D6



Dextromethorphan



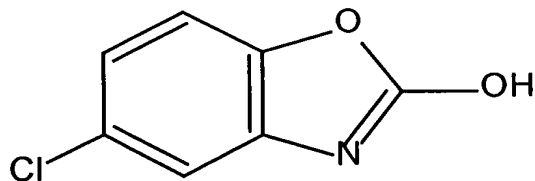
Dextroorphan

FIG. 9

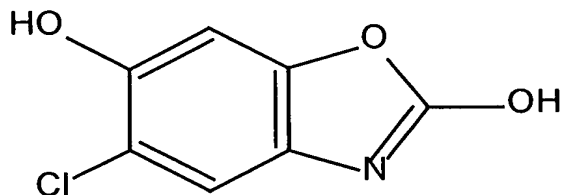


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Title: USE OF METABOLIC PHENOTYP
Inventor: Brian Leyland-Jones

CYP2E1



Clorazoxazone



6-Hydroxychlorzoazone

FIG. 10



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Inventor: Brian Leyland-Jones

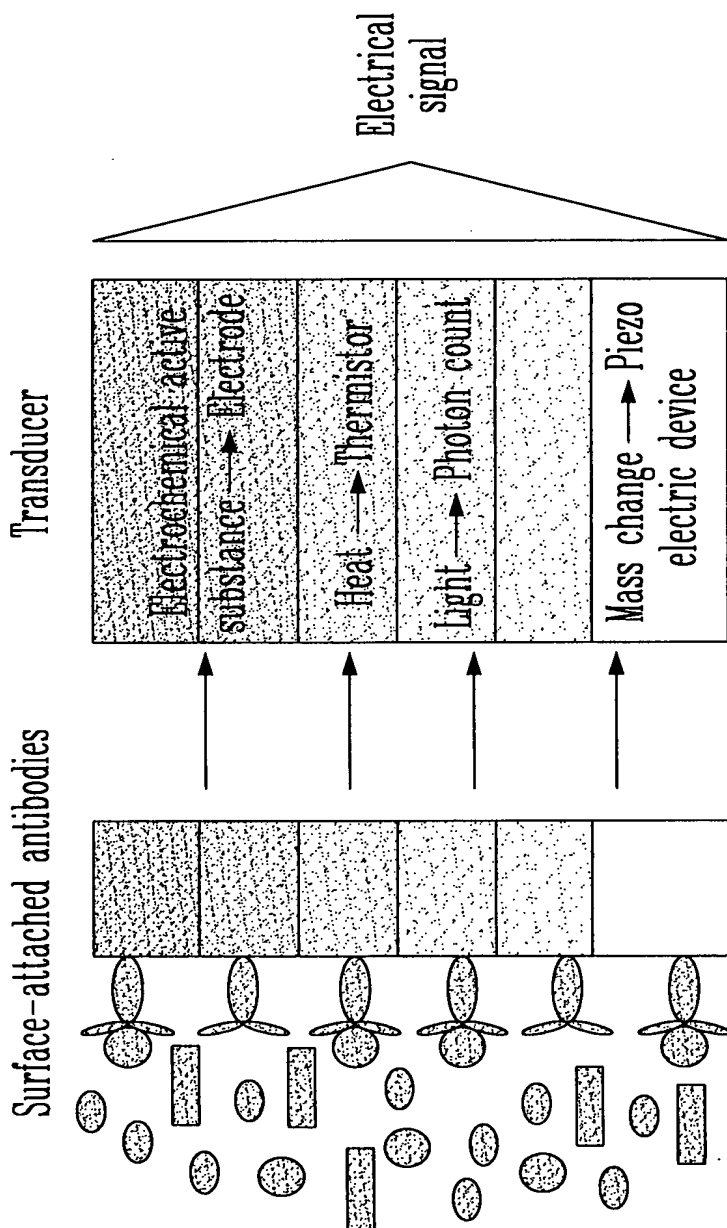


FIG. 11

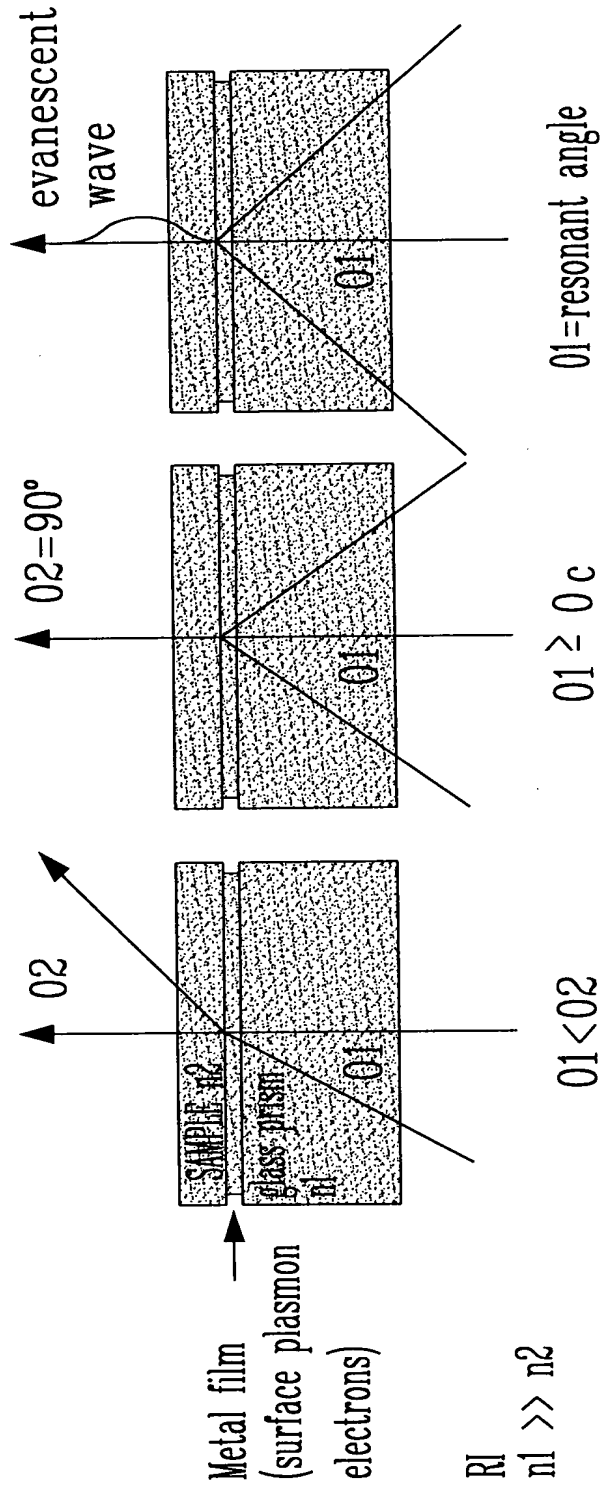


FIG-12



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USE OF METABOLIC PHENOTYPING

Inventor: Brian Leyland-Jones

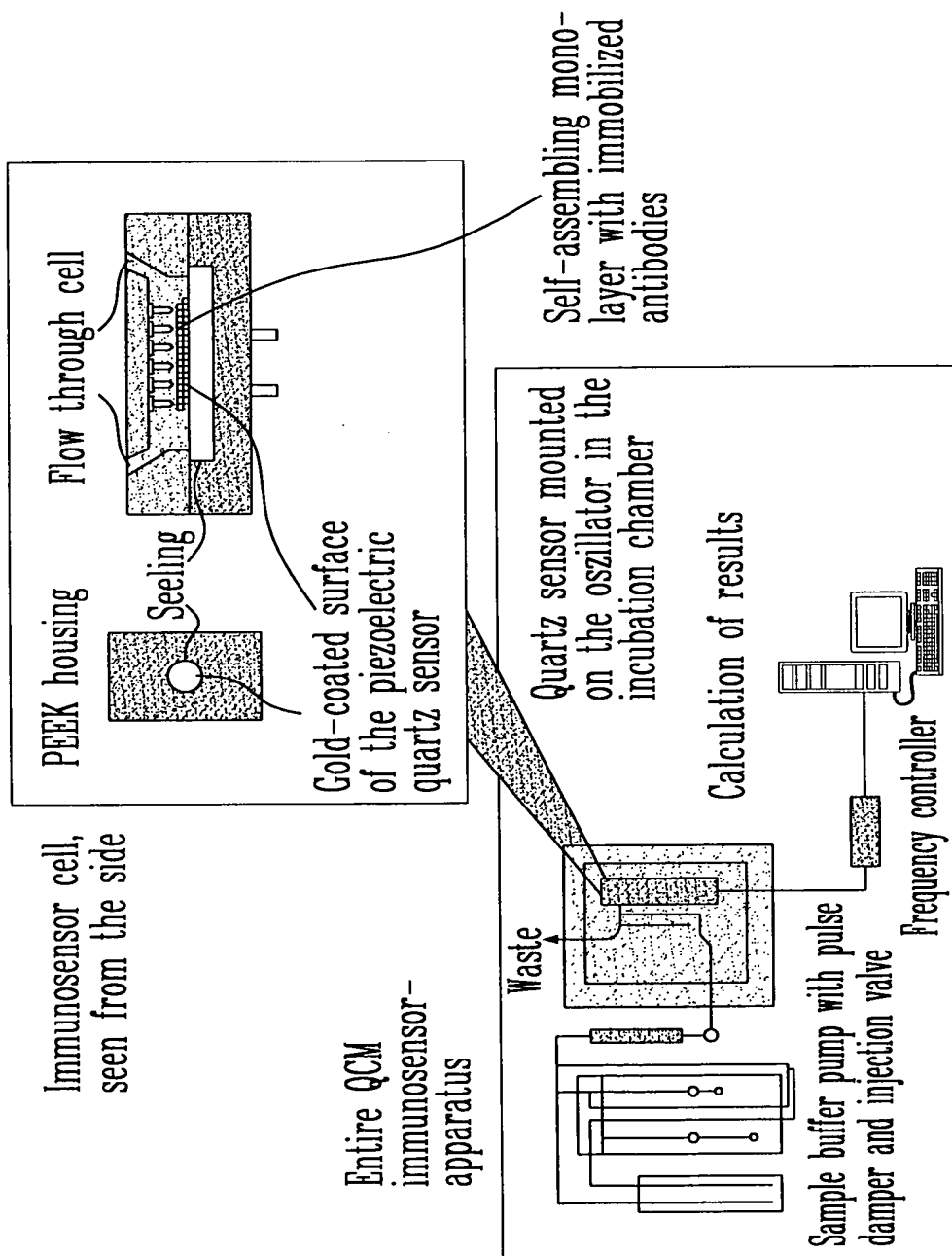
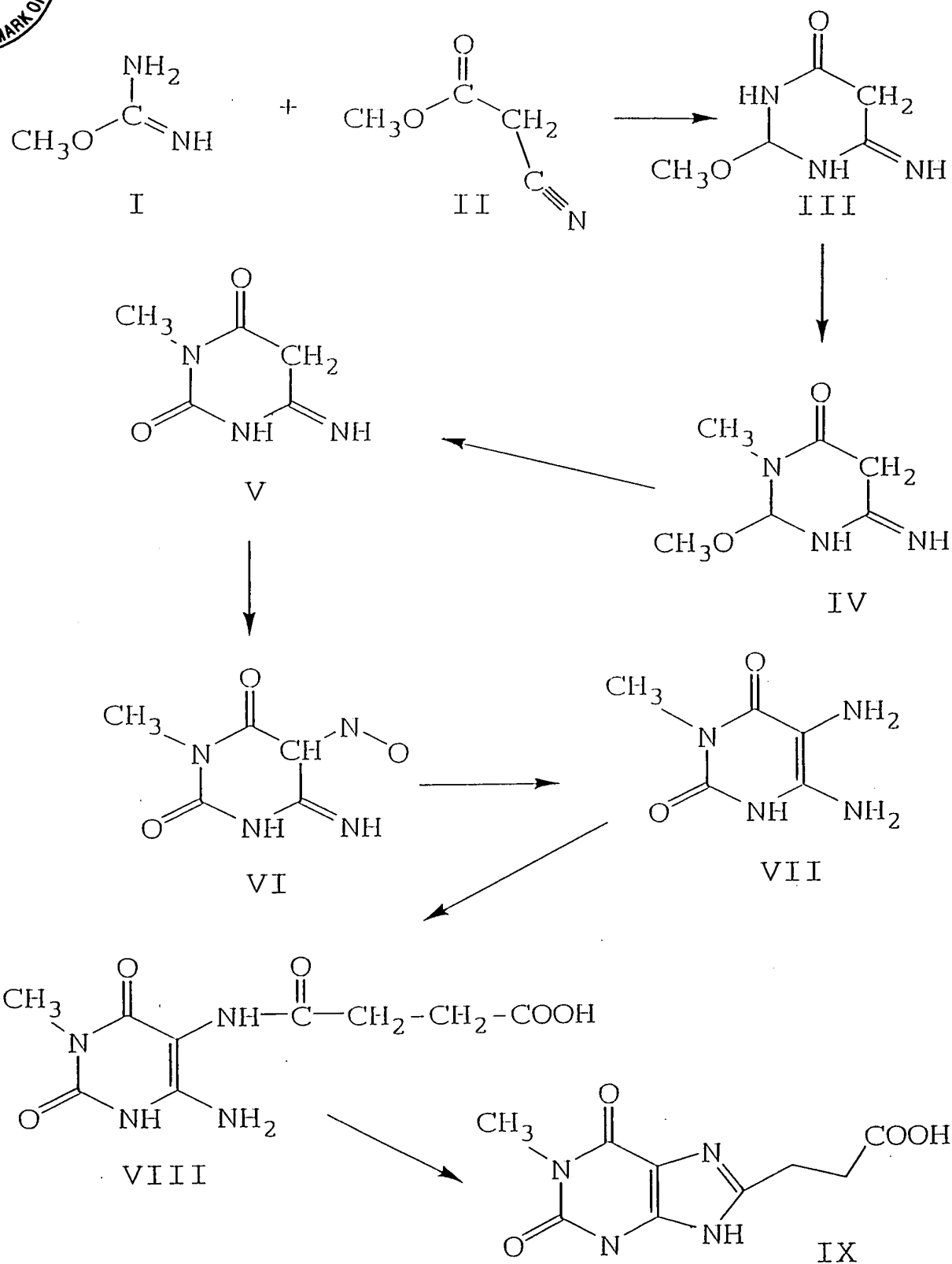


FIG. 13

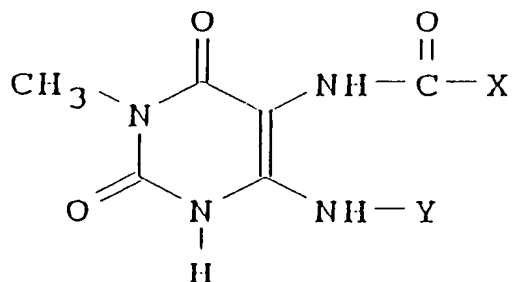


AAMU-hemisuccinic acid

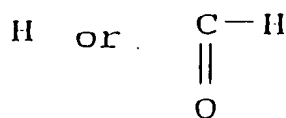
1 methyl xanthine-8-propionic acid



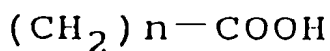
Derivatives of AAMU (5-acetamino-6-amino-3-methyluracil) or
AFMU (5-acetamino-6-formylamino-3-methyluracil)



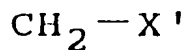
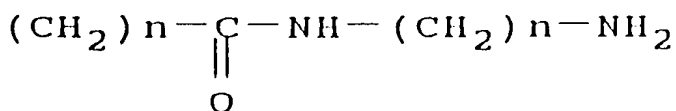
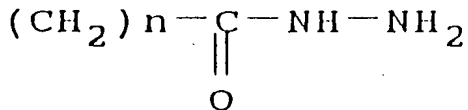
Where Y is



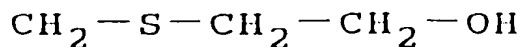
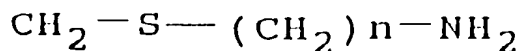
X



where n = 2, 3 or 4

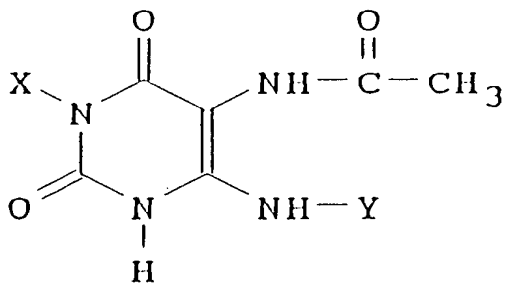


where X' is I, Br, or Cl

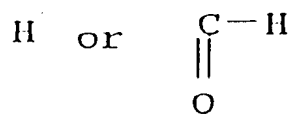




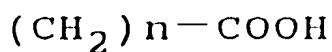
Derivatives of AAMU (5-acetamino-6-amino-3-methyluracil) or
AFMU (5-acetamino-6-formylamino-3-methyluracil)



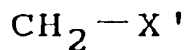
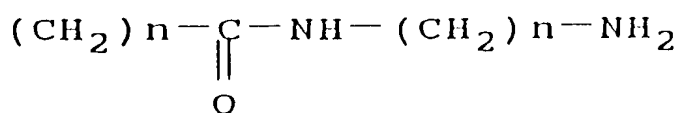
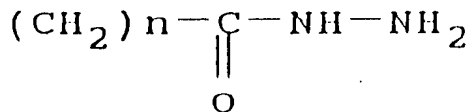
Where Y is



X



where n = 2, 3 or 4



where X' is I, Br, or Cl

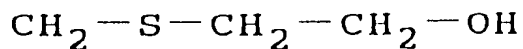
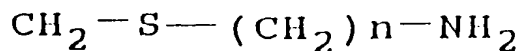
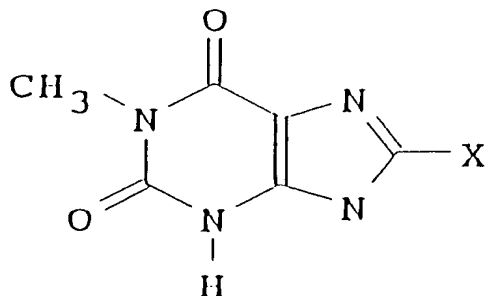


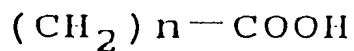
FIG. 16



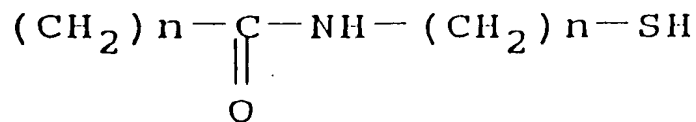
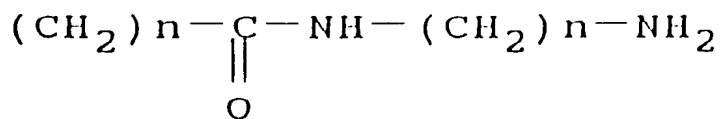
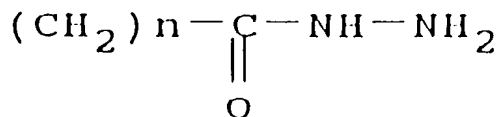
Derivatives of 1X (methylxanthine)



X



where n = 2, 3 or 4



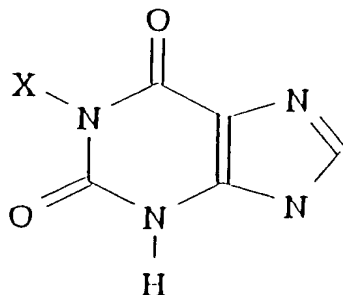


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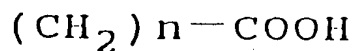
Title: USE OF METABOLIC PHENOTYPING....

Inventor: Brian Leyland-Jones

Derivatives of 1X (methylxanthine)



X



where n = 2, 3 or 4

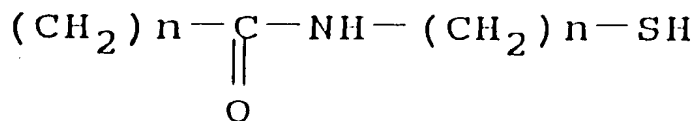
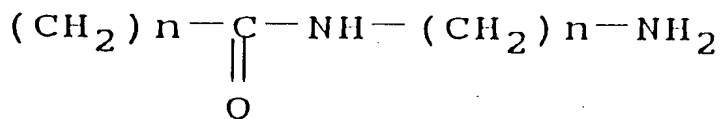
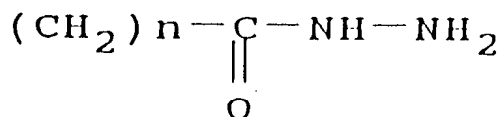
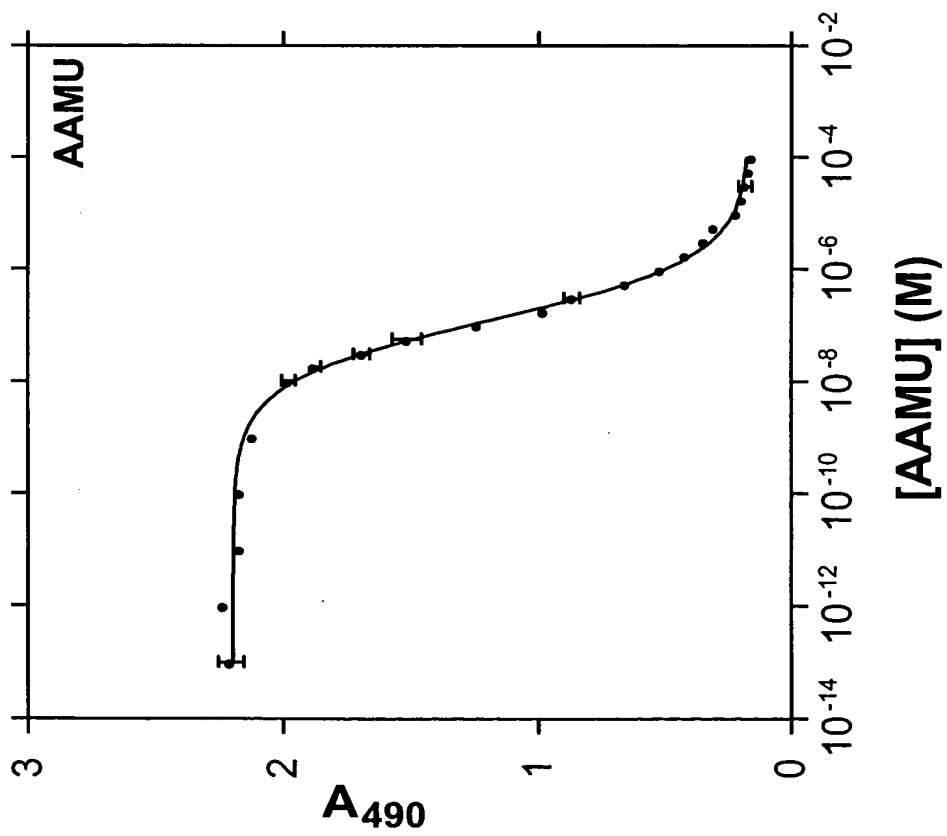
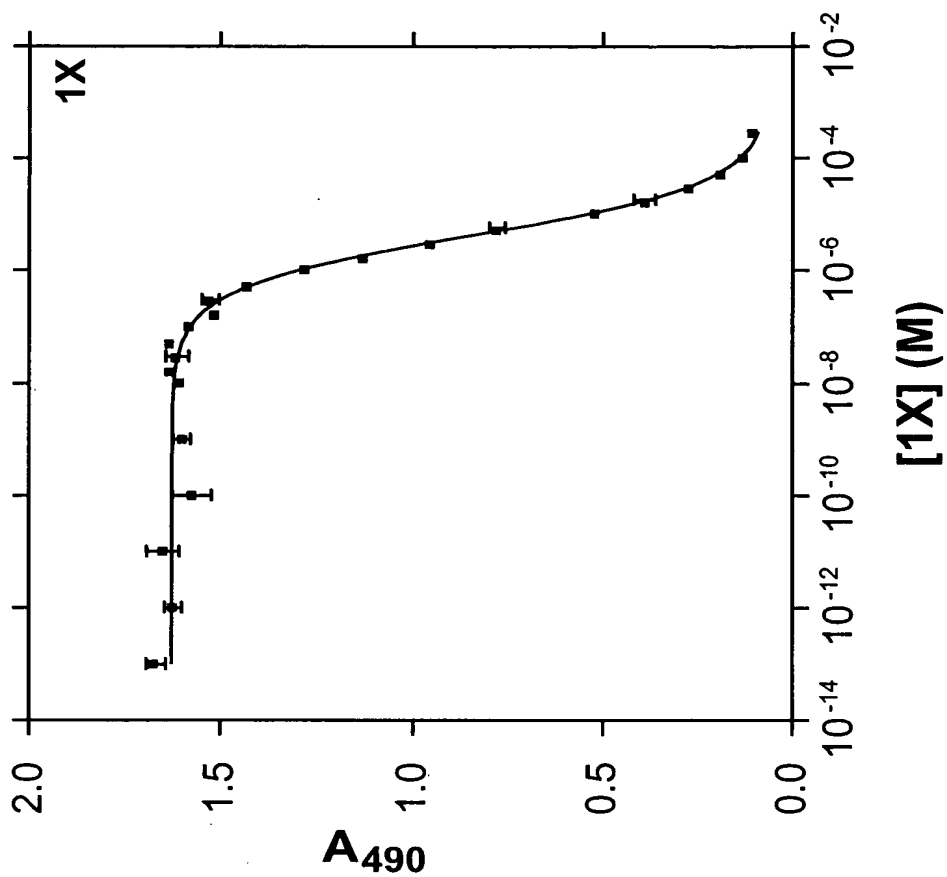


FIG. 1B



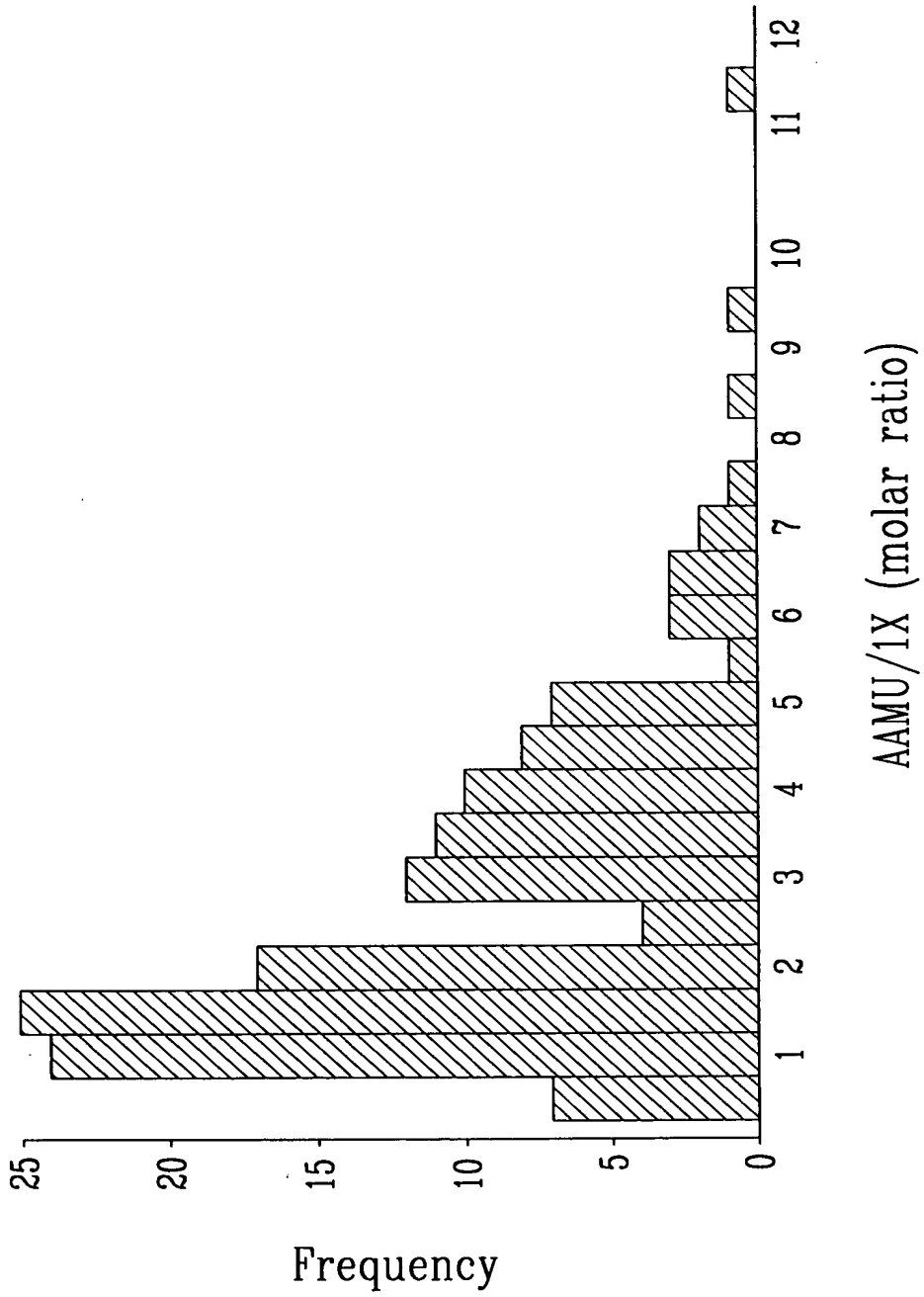
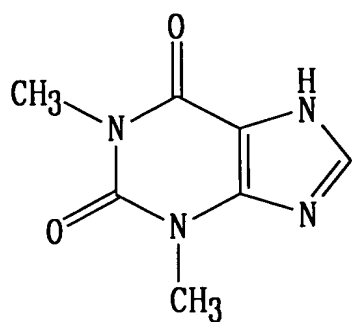
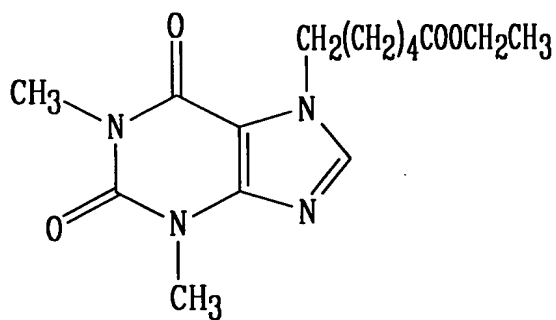


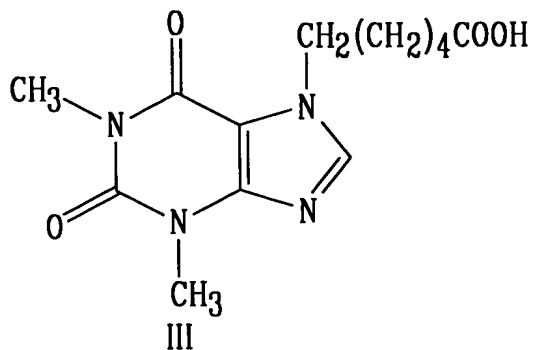
Fig. 20



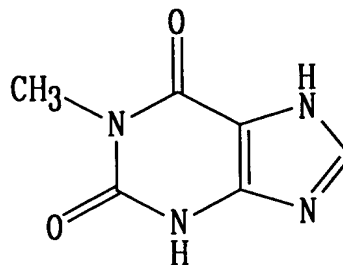
$\text{Br}(\text{CH}_2)_5\text{COOCH}_2\text{CH}_3$



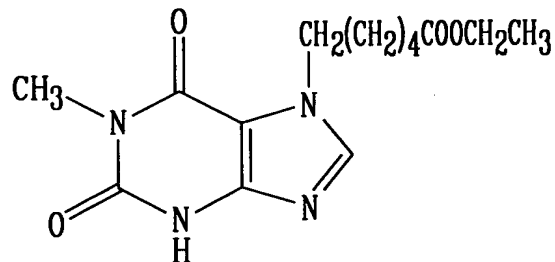
NaOH



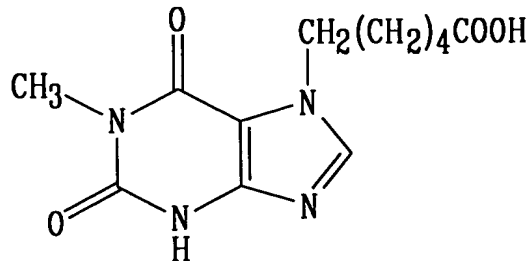
Caffeine derivative



$\text{Br}(\text{CH}_2)_5\text{COOCH}_2\text{CH}_3$

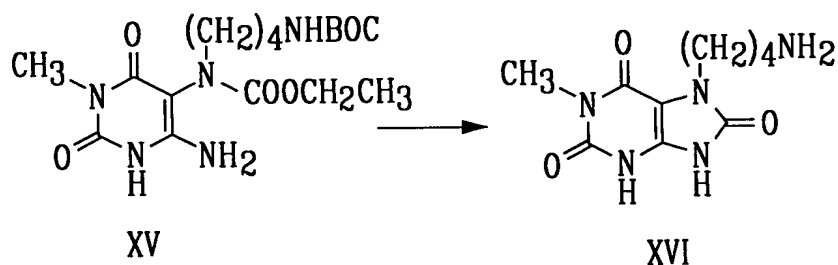
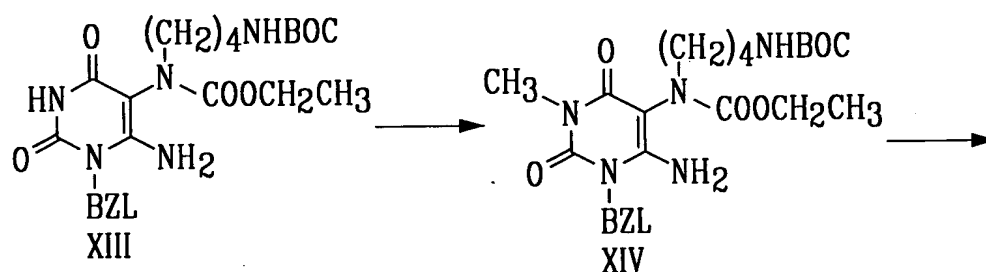
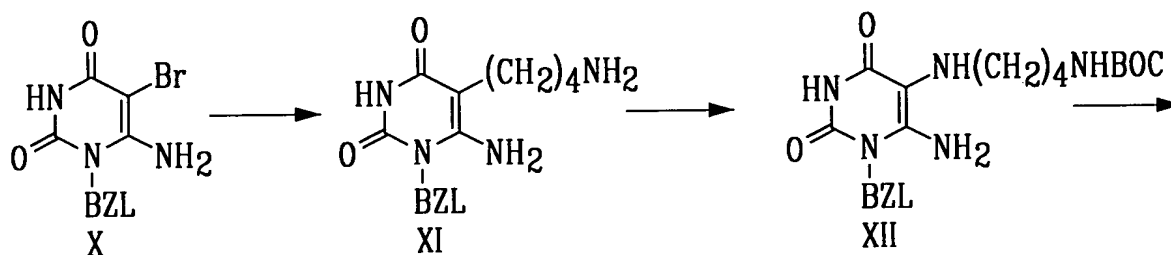
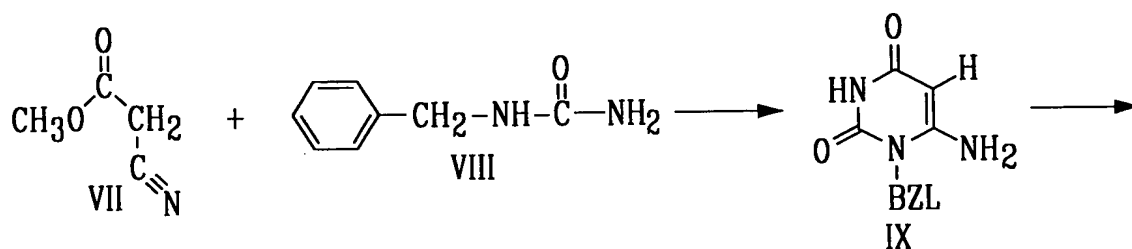


NaOH



VI

1,7-dimethylxanthine derivative



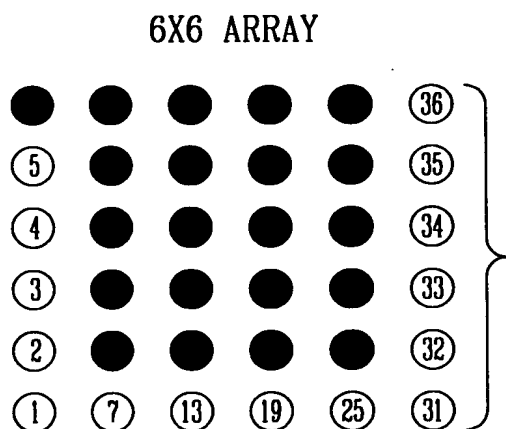
1,7-dimethyluric acid derivative



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	1	2	3	4	5	6	7	8	9	10	11	12
A	Blk	STD8	STD16	S1	S9	S5	S1	S9	S5	Blk	STD8	STD16
B	STD1	STD9	STD17	S2	S10	S6	S2	S10	S6	STD1	STD9	STD17
C	STD2	STD10	STD18	S3	S11	S7	S3	S11	S7	STD2	STD10	STD18
D	STD3	STD11	STD19	S4	S12	S8	S4	S12	S8	STD3	STD11	STD19
E	STD4	STD12	STD20	S5	S1	S9	S5	S1	S9	STD4	STD12	STD20
F	STD5	STD13	STD21	S6	S2	S10	S6	S2	S10	STD5	STD13	STD21
G	STD6	STD14	STD22	S7	S3	S11	S7	S3	S11	STD6	STD14	STD22
H	STD7	STD15	STD23	S8	S4	S12	S8	S4	S12	STD7	STD15	STD23

FIG. 23



ARRAY LAYOUT:

ALIGNMENT MARKERS- ○

BUFFER BLANKS- ○

ANTIGENS- ●

ANTIGEN KEY:

1. BIOTINYLATED BSA MARKER
- 2-6. BUFFER BLANKS
7. NAT2: AAMU
8. BIOTINYLATED BSA MARKER
9. NAT2: 1X
10. NAT1: pASA
11. NAT1: ACETYL-pASA
12. CYP1A2: CAFFEINE
13. BIOTINYLATED BSA MARKER
14. CYP1A2: 1,7-DMX
15. CYP1A2: 1,7-DMU
16. CYP2A6: COMARIN
17. CYP2A6: 7-HYDROXYCOUMARIN
18. CYP2C19: R- (-) -MEPHENYTOIN
19. BIOTINYLATED BSA MARKER
20. CYP2C19: S- (+) -MEPHENYTOIN
21. CYP2C9: DICLOFENAC
22. CYP2C9: 4-HYDROXYDICLOFENAC
23. CYP2D6: DEXTROMETHORPHAN
24. CYP2D6: DEXTROPHAN
25. BIOTINYLATED BSA MARKER
26. CYP2E1: CHLORZOXAZONE
27. CYP2E1: 6-HYDROXYCHLORZOXAZONE
28. CYP3A4: MIDAZOLAM
29. CYP3A4: 1-HYDROXYMIDAZOLAM
30. BUFFER BLANK
- 31-36. BIOTINYLATED BSA MARKER

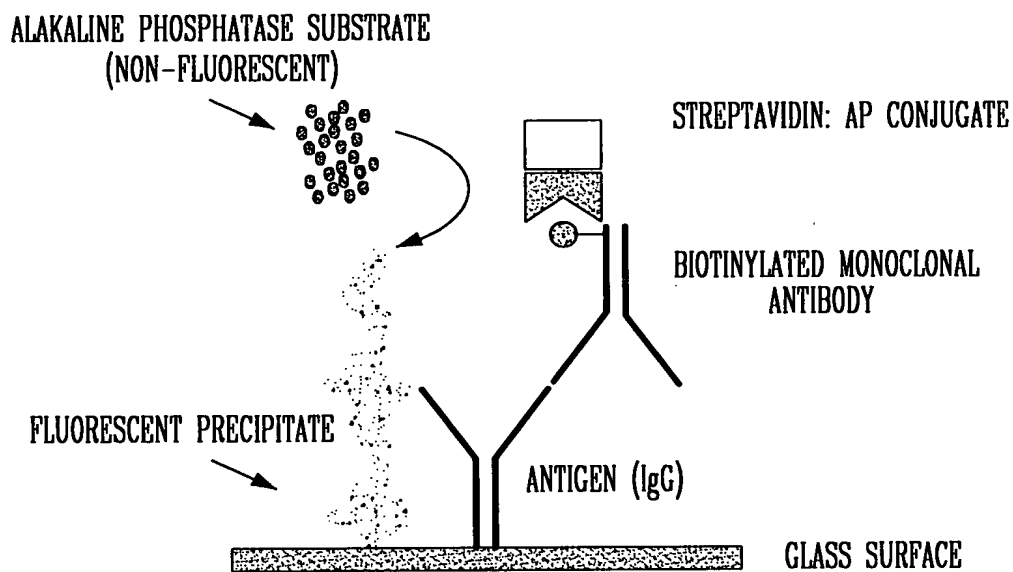


FIG. 26

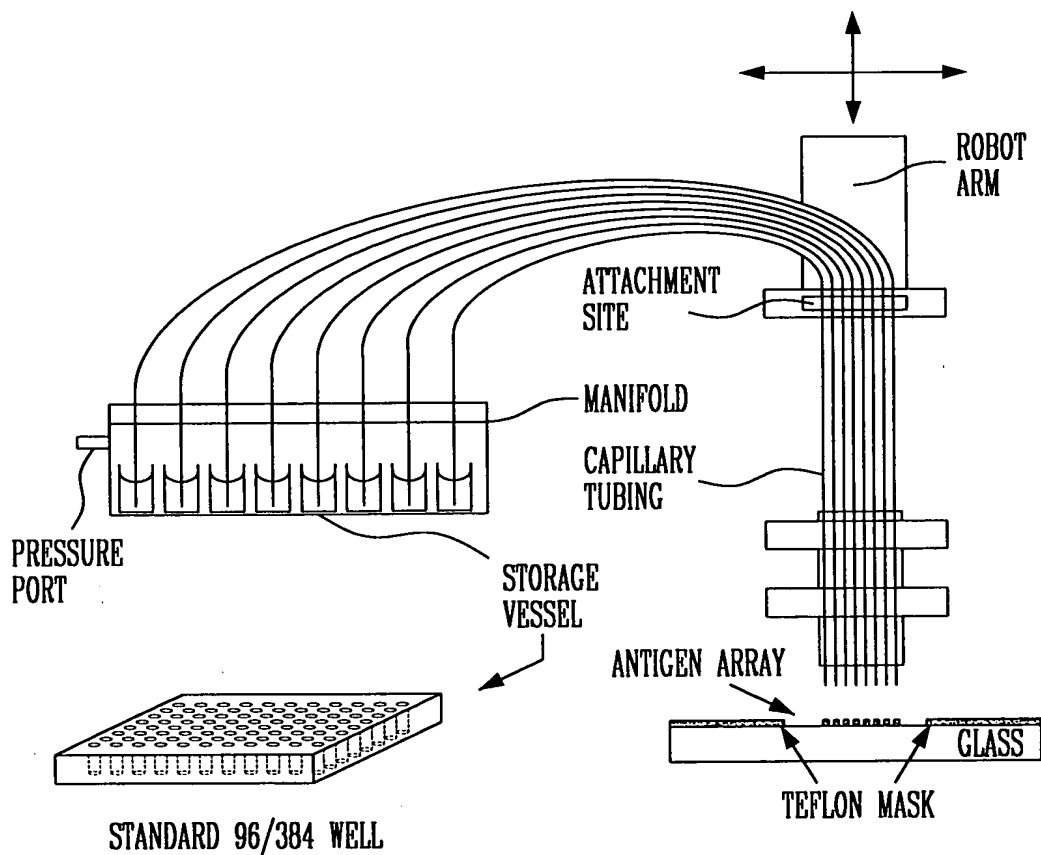
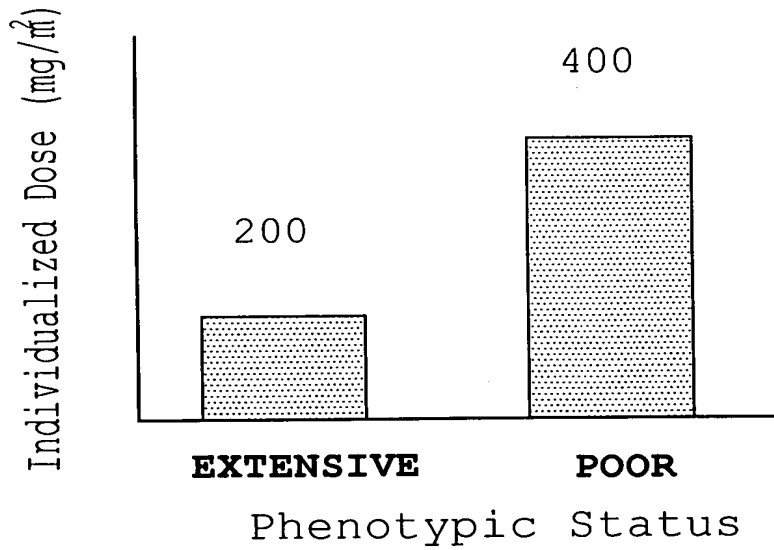
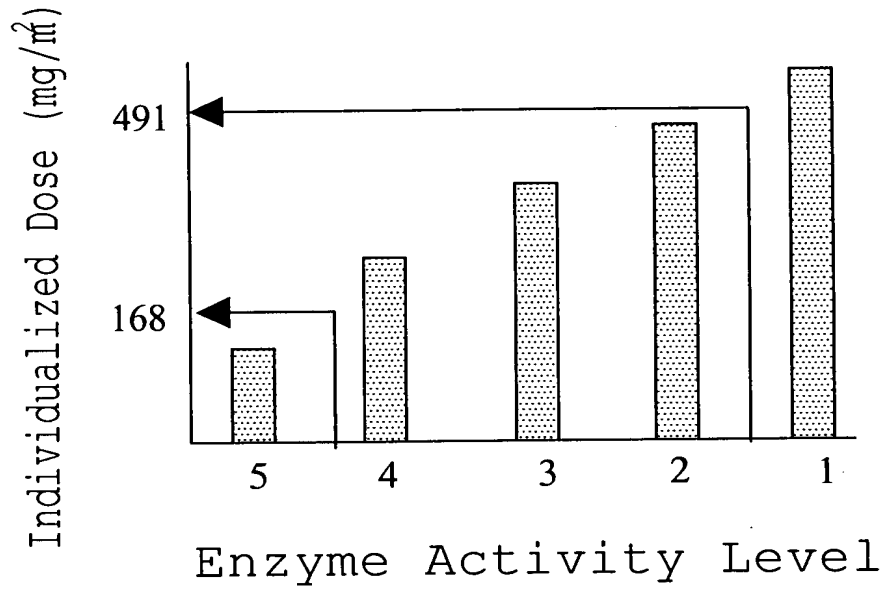
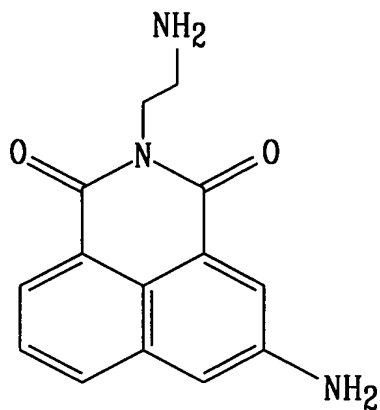
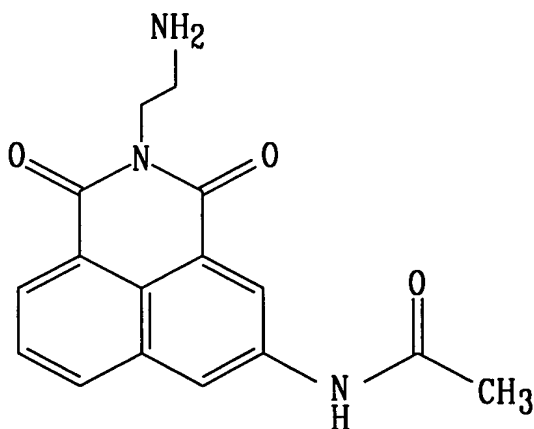


FIG. 27





Amonafide



N-Acetyl-Amonafide

